

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/313,184

Q1 FIGS. 12B and 12C and in which the negative electrode 132 and the positive electrode 134 assume the same area. Thus, measurement accuracy is improved accordingly.

Page 13, line 23 - page 14, line 4 please delete the paragraph bridging these two pages and replace it with the following new paragraph:

Q2 In the flat limiting-current-type sensor of the first embodiment serving as an oxygen sensor, a voltage of 0.7 V is applied between the negative electrode 34a and the positive electrode 32a. Thus, the area ratio between the positive electrode 32a and the negative electrode 34a is set to 2:1, thereby reducing element resistance. Element resistance was experimentally measured with respect to different area ratios between the negative electrode 34a and the positive electrode 32a. The test results will be described with reference to FIGS. 5A and 6.

IN THE CLAIMS:

Please cancel claims 1-15 without prejudice or disclaimer.

Please add the following new claims:

Q3
SUB 317
16. (New) A sensor element comprising negative and positive electrodes disposed on the same side of a solid electrolyte substrate and a circuit for applying an electric potential between said negative electrode and said positive electrode, wherein
the area of said negative electrode and the area of said positive electrode differ by at least twofold,
at least one of said negative electrode and said positive electrode is embedded in the solid electrolyte substrate, and